

REMARKS

I. Summary of the Examiner's Action

A. Claim Rejections

Claims 1 – 48 were rejected under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

According to the Examiner, with respect to claims 1 and 48, “it is unclear as to how calculate/derive the similarity formula given the random mapping as cited on page 10 of the disclosure. How is the predetermined similarity value derived given the random mapping formula?”

Office Action, Page 2, Paragraph 4, lines 4 – 7. The Examiner also rejected dependent claims 2 – 11 as depending from a rejected independent claim.

According to the Examiner, with respect to claim 2, “there is a lack of antecedent basis for the following: “j+1 . . . K [note claim 2 line 4; claim 6 line 4; and claim 20 line].” Office Action, Page 2, Paragraph 4, lines 8 – 9.

According to the Examiner, with respect claim 12, “there is a lack of antecedent basis for the following: the query vector” [note claim 12 line 11].” Office Action, Page 2, Paragraph 4, lines 4 –

7. The Examiner also rejected dependent claims 13 – 19 as depending from a rejected independent claim.

According to the Examiner, with respect to claim 20, “the reference numerals are vague and unclear, note claim 20 line 3-11]. It is unclear as to what elements the claim is referencing within the brackets.” Office Action, Page 3, Paragraph 4, lines 12 – 14. The Examiner also rejected dependent claims 21 – 33 as depending from a rejected independent claim.

According to the Examiner, with respect to claim 34 “the following limitation is [sic] lacks proper antecedent basis: Qe [Note claim 34 line 17]. Office Action, Page 3, Paragraph 4, lines 15 – 16. The Examiner also rejected dependent claims 35 – 47 as depending from a rejected independent claim.

These rejections are respectfully disagreed with, and are traversed below.

II. Applicant’s Response

A. Rejections under 35 U.S.C. § 112, Second Paragraph

Applicants have amended claims 1 and 48 by deleting hyphens in the expressions “vector-q” and “vector-Q” as recited in claims 1 and 48. As amended, Applicants respectfully submit that claims 1 and 48 do particularly point out and distinctly claim the subject matter Applicants consider

to be their invention.

The expression " $\|Q-q\|$ " as set forth in claims 1 and 48 refers in well-understood mathematical terminology to the calculation of the norm of the difference between two vectors; in other words, calculating the distance between two vectors. Once calculated, the value is then compared to a predetermined similarity value SV. Applicants note that both vectors "Q" and "q" in the norm expression " $\|Q-q\|$ " find antecedent support in claims 1 and 48 as amended.

In addition, the norm operation indicated by " $\|Q-q\|$ " as recited in claims 1 and 48 is clearly not derived from the mapping operations (neither, for that matter, is the similarity value SV which is "predetermined"), but rather operates on two vectors created by separate mapping operations recited elsewhere in the claims. The mapping operations are described at length in the specification. When read in light of the specification, Applicants respectfully submit that the claims do particularly point out and distinctly claim the subject matter which Applicants consider to be their invention.

For these reasons, Applicants respectfully submit that independent claims 1 and 48, and all the claims which depend from them, are patentable. Applicants also have amended claims 2 and 6 to conform to the changes made to claim 1.

Applicants have amended claim 2 so that the expression " $j=1 \dots k$ " finds antecedent support

in the claims.

Regarding claim 12, Applicants have amended the expression “the query vector” to read “the dimensional query vector” which therefore now finds antecedent support in the claim.

Regarding claim 20, Applicants have deleted the reference characters. Applicants nonetheless submit that claim 20, as amended, is clear and definite, and finds support in the specification, particularly with respect to FIG. 7 and the accompanying description. Applicants also have deleted the reference characters in claims which depend from claim 20.

Applicants have amended claim 34 so that the term “Qe” finds antecedent support in the claim.

For the foregoing reasons, Applicants submit that claims 1, 2, 12, 20, 34 and 48, as amended, and all the claims which depend from them, now particularly point out and distinctly the subject matter which Applicants consider to be their invention. For this reason, Applicants respectfully request that the Examiner withdraw the rejection of these claims.

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III. Conclusion

The Applicant submits that in light of the foregoing amendments and remarks the application is now in condition for allowance. Applicant therefore respectfully requests that the outstanding rejections be withdrawn and that the case be passed to issuance.

Respectfully submitted,

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Date

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